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09/995,235	11/26/2001	Helena O'Shea	010403	9661

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EXAMINER	
NGUYEN, TOAN D	

ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	09/995,235	O'SHEA, HELENA	
	Examiner	Art Unit	
	Toan D. Nguyen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-31 and 46-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-31 and 46-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 22-28, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley (US 6,996,158) in view of Shohara (US 6,463,266).

For claim 22, Bradley discloses signal detection using a CDMA receiver, comprising:

a first receiver (figure 2A, reference 50, col. 6, line 63) to receive a first signal from a first carrier, the first receiver comprising a first frequency tracking loop (figure 2A, reference 100) to obtain frequency estimation information relating to the first signal (col. 8, lines 37-39); and

a second receiver (figure 2A, reference 53, col. 6, line 64) to receive a second signal from a second carrier, the second receiver comprising a GSM detection and channel estimation (figure 4, reference 302, col. 10, lines 47-48) to obtain frequency estimation information relating to the second signal as a function of the frequency estimation information relating to the first signal (figure 5, reference 328, col. 11, lines 64-66).

However, Bradley does not expressly disclose a frequency tracking loop. In an analogous art, Shohara discloses a frequency tracking loop (figure 1, reference 100, col. 9, line 6).

Shohara discloses wherein at least one of the first and second frequency estimation information comprises a frequency offset (col. 5 lines 42-45 as set forth in claim 24), wherein at least one of the first and second frequency tracking loops configures a voltage-controlled, temperature-compensated crystal oscillator (col. 8 line 57-58 as set forth in claim 25), and wherein at least one of the first and second frequency tracking loops configures a rotator (col. 9 line 4as set forth in claim 26).

One skilled in the art would have recognized the frequency tracking loop, and would have applied Shohara's automatic frequency control 100 in Bradley's GSM detection and channel estimation function 302. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shohora's radio frequency control for communications system in Bradley's signal detection using a CDMA receiver with the motivation being to produce a sequence of frequency offset commands for the downlink and uplink phase rotators in a Type 2 AFC tracking loop configuration (figure 5, col. 16 lines 39-42).

For claim 23, Bradley discloses wherein the first frequency tracking loop is configured to obtain the frequency estimation information relating to the first signal as a function of the frequency estimation information relating to the second signal (figure 5, reference 328, col. 11, lines 64-66).

For claim 27, Bradley discloses wherein at least one of the first and second receivers is configured to obtain handover information during an allocated time slot (col. 11, lines 62-66).

For claim 28, Bradley discloses wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI)(col. 4, lines 43-44).

For claim 30, Bradley discloses wherein at least one of the first and second receivers comprises a RAKE receiver (figure 2A, reference 50, col. 6, line 63).

For claim 31, Bradley discloses wherein at least one of the first and second receivers comprises a GSM receiver (figure 2A, reference 53, col. 6 line 64).

3. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley (US 6,996,158) in view of Shohara (US 6,463,266) further in view of Muller (US 6,845,238).

For claim 29, Bradley in view of Shohara does not expressly disclose wherein the allocated time slot occurs during a compressed mode. In an analogous art, Muller discloses wherein the allocated time slot occurs during a compressed mode (col. 19 line 23).

One skilled in the art would have recognized the compressed mode, and would have applied Muller's compressed mode in Bradley's digital signal processor portion 48. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Muller's inter-frequency measurement and handover for wireless communications in Bradley's signal detection using a CDMA receiver with the motivation being to compress mode some slots (e.g., frames), such as F_G, are used for measurements (col. 19, lines 23-24).

4. Claims 46-66, 67-77, 79 and 80 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Muller (US 6,845,238) in view of Jetzek et al. (US 6,546,252) and further in view of Shohara (US 6,463,266).

For claims 46-47, 51, and 52, Muller discloses inter-frequency measurement and handover for wireless communications, comprising:

obtaining frequency estimation information from a first wirelesssignal received from a first carder in a first communication system (reference UTRAN system)(figure 10, reference step 10-6, col. 23, lines 16-17);

performing a handover to a second carder in a second communication system (reference GSM system) distinct from the first communication system (reference UTRAN system)(figure 10, reference step 10-7, col. 23 lines 33-34).

However, Muller does not expressly disclose configuring for receiving a second wireless signal from the second carder as a function of the frequency information. In an analogous art, Jetzek et al. disclose configuring for receiving a second wireless signal from the second carder as a function of the frequency estimation information (col. 6, lines 24-31).

Jetzek et al. disclose wherein the frequency estimation information comprises a frequency offset (col. 6, lines 24-31 as set forth in claim 47).

One skilled in the art would have recognized the configuring for receiving a second wireless signal from the second carder as a function of the frequency information, and would have applied Jetzek et al.'s interfrequency handover in Muller's handover from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Jetzek et

al.'s system and method for estimating intefrequency measurements used for radio network function in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to provide the frequency estimation by providing the offset frequency (col. 6, lines 28-37).

Furthermore, Muller in view of Jetzek et al. does not expressly disclose a frequency tracking loop. In an analogous art, Shohara discloses a frequency tracking loop (figure 1, reference 100, col. 9, line 6).

Shohara discloses wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information (col. 8, line 57-58 as set forth in claim 51), and wherein the frequency tracking loop configures a rotator as a function of the frequency estimation information (col. 9, line 4 as set forth in claim 52).

One skilled in the art would have recognized the frequency tracking loop, and would have applied Shohara's automatic frequency control 100 in Muller's handover from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shohora's radio frequency control for communications system in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to produce a sequence of frequency offset commands for the downlink and uplink phase rotators in a Type 2 AFC tracking loop configuration (figure 5, col. 16, lines 39-42).

For claim 48, Muller discloses wherein the first wireless signal is a CDMA signal and the second wireless signal is a GSM signal (figure 3D, col. 19, line 65).

For claim 49, Muller discloses wherein the CDMA signal is one of a W-CDMA signal and a CDMA2000 signal (figure 3B, col. 20, lines 8-10).

For claim 50, Muller discloses wherein the first wireless signal is a GSM signal and the second wireless signal is a CDMA (figure 11, col. 21, line 22).

For claim 53, Muller discloses obtaining handover information during an allocated time slot (figure 9, col. 19, lines 23-27).

For claim 54, Muller discloses wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ration (SIR), and a received signal strength indicator (RSSI)(col. 20, line 30).

For claim 55, Muller discloses wherein the allocated time slot occurs during a compressed mode (col. 19, line 23).

For claims 56, 57, 62, and 63, Muller discloses inter-frequency measurement and handover for wireless communications, comprising:

obtaining frequency estimation information from a first wireless signal received from a first carder in a first communication system (reference UTRAN system)(figure 10, reference step 10-6, col. 23, lines 16-17);

performing a handover to a second carder in a second communication system (reference GSM system) distinct from the first communication system (reference UTRAN system)(figure 10, reference step 10-7, col. 23, lines 33-34).

However, Muller does not expressly disclose configuring for receiving a second wireless signal from the second carder as a function of the frequency information. In an

analogous art, Jetzek et al. disclose configuring for receiving a second wireless signal from the second carder as a function of the frequency information (col. 6, lines 24-31).

Jetzek et al. disclose wherein the frequency estimation information comprises a frequency offset (col. 6, lines 24-31 as set forth in claim 57).

One skilled in the art would have recognized the configuring for receiving a second wireless signal from the second carder as a function of the frequency information, and would have applied Jetzek et al.'s interfrequency handover in Muller's handover from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Jetzek et al.'s system and method for estimating intefrequency measurements used for radio network function in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to provide the frequency estimation by providing the offset frequency (col. 6, lines 28-37).

Furthermore, Muller in view of Jetzek et al. does not expressly disclose a frequency tracking loop. In an analogous art, Shohara discloses a frequency tracking loop (figure 1, reference 100, col. 9, line 6).

Shohara discloses wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information (col. 8, line 57-58 as set forth in claim 62), and wherein the frequency tracking loop configures a rotator as a function of the frequency estimation information (col. 9, line 4 as set forth in claim 63).

One skilled in the art would have recognized the frequency tracking loop, and would have applied Shohara's automatic frequency control 100 in Muller's handover from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shohora's radio frequency control for communications system in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to produce a sequence of frequency offset commands for the downlink and uplink phase rotators in a Type 2 AFC tracking loop configuration (figure 5, col. 16, lines 39-42).

For claim 58, Muller discloses wherein the first wireless signal is a CDMA signal (figure 3D, col. 19 line 65).

For claim 59, Muller discloses wherein the CDMA signal is one ofa W-CDMA signal and a CDMA2000 signal (figure 3B, col. 20, lines 8-10).

For claim 60, Muller discloses wherein the second wireless signal is a GSM signal (figure 3D, col. 19, line 65).

For claim 61, Muller discloses wherein the first wireless signal is a GSM signal and the second wireless signal is a CDMA (figure 11, col. 21, line 22).

For claim 64, Muller discloses obtaining handover information during an allocated time slot (figure 9, col. 19, lines 23-27).

For claim 65, Muller discloses wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ration (SIR), and a received signal strength indicator (RSSI)(col. 20, line 30).

For claim 66, Muller discloses wherein the allocated time slot occurs during a compressed mode (col. 19, line 23).

For claims 67, 68, 72, and 73, Muller discloses inter-frequency measurement and handover for wireless communications, comprising:

means for obtaining frequency estimation information from a first wireless signal received from a first carder in a first communication system (reference UTRAN system)(figure 10, reference step 10-6, col. 23, lines 16-17);

means for performing a handover to a second carder in a second communication system (reference GSM system) distinct from the first communication system (reference UTRAN system)(figure 10, reference step 10-7, col. 23, lines 33-34).

However, Muller does not expressly disclose means for configuring for receiving a second wireless signal from the second carder as a function of the frequency information. In an analogous art, Jetzek et al. disclose means for configuring for receiving a second wireless signal from the second carder as a function of the frequency information (col. 6, lines 24-31).

Jetzek et al. disclose wherein the frequency estimation information comprises a frequency offset (col. 6, lines 24-31 as set forth in claim 68).

One skilled in the art would have recognized the means for configuring for receiving a second wireless signal from the second carder as a function of the frequency information, and would have applied Jetzek et al.'s interfrequency handover in Muller's handover from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Jetzek

et al.'s system and method for estimating intefrequency measurements used for radio network function in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to provide the frequency estimation by providing the offset frequency (col. 6, lines 28-37).

Furthermore, Muller in view of Jetzek et al. does not expressly disclose a frequency tracking loop. In an analogous art, Shohara discloses a frequency tracking loop (figure 1, reference 100, col. 9, line 6).

Shohara discloses wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information (col. 8, line 57-58 as set forth in claim 72), and wherein the frequency tracking loop configures a rotator as a function of the frequency estimation information (col. 9 line 4 as set forth in claim 73).

One skilled in the art would have recognized the frequency tracking loop, and would have applied Shohara's automatic frequency control 100 in Muller's handover from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shohora's radio frequency control for communications system in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to produce a sequence of frequency offset commands for the downlink and uplink phase rotators in a Typ 2 AFC tracking loop configuration (figure 5, col. 16, lines 39-42).

For claim 69, Muller discloses wherein the first wireless signal is a CDMA signal and the second wireless signal is a GSM signal (figure 3D, col. 19 line 65).

For claim 70, Muller discloses wherein the CDMA signal is one of a W-CDMA signal and a CDMA2000 signal (figure 3B, col. 20, lines 8-10).

For claim 71, Muller discloses wherein the first wireless signal is a GSM signal and the second wireless signal is a CDMA (figure 11, col. 21, line 22).

For claim 74, Muller discloses obtaining handover information during an allocated time slot (figure 9, col. 19, lines 23-27).

For claim 75, Muller discloses wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ration (SIR), and a received signal strength indicator (RSSI)(col. 20, line 30).

For claim 76, Muller discloses wherein the allocated time slot occurs during a compressed mode (col. 19, line 23).

For claims 77, 79 and 80, Muller discloses inter-frequency measurement and handover for wireless communications, comprising:

determining a frequency error of a first wireless signal operating at a carder frequency (reference UTRAN system)(figure 10, reference step 10-6, col. 23, lines 16-17); and

performing a handover to a second carder (reference GSM system) (figure 10, reference step 10-7, col. 23, lines 33-34).

However, Muller does not expressly disclose configuring for receiving a second wireless signal operating at a second carder based at least in part on the frequency error of the first wireless signals. In an analogous art, Jetzek et al. disclose configuring

for receiving a second wireless signal operating at a second carder based at least in part on the frequency error of the first wireless signals (col. 6, lines 24-31).

Jetzek et al. disclose wherein determining the frequency error comprises determining a frequency offset of a carder frequency of the first wireless signal relative to a desired carrier frequency (col. 6, lines 28-37 as set forth in claim 79), and determining a ratio of a desired carder frequency to a carrier frequency of the first wireless signal relative; and applying a frequency correction to the frequency tracking loop based on the ratio (col. 6, lines 24-37 as set forth in claim 80).

One skilled in the art would have recognized the configuring for receiving a second wireless signal operating at a second carder based at least in part on the frequency error of the first wireless signals, and would have applied Jetzek et al.'s interfrequency handover in Muller's handover from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Jetzek et al.'s system and method for estimating intefrequency measurements used for radio network function in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to provide the frequency estimation by providing the offset frequency (col. 6, lines 28-37).

Furthermore, Muller in view of Jetzek et al. does not expressly disclose a frequency tracking loop. In an analogous art, Shohara discloses a frequency tracking loop (figure 1, reference 100, col. 9, line 6).

One skilled in the art would have recognized the frequency tracking loop, and would have applied Shohara's automatic frequency control 100 in Muller's handover

from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shohora's radio frequency control for communications system in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to produce a sequence of frequency offset commands for the downlink and uplink phase rotators in a Type 2 AFC tracking loop configuration (figure 5, col. 16, lines 39-42).

5. Claim 78 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muller (US 6,845,238) in view of Jetzek et al. (US 6,546,252) and Shohara (US 6,463,266) further in view of Vihriala (US 6,956,895).

For claim 78, Muller in view of Jetzek et al. and Shohara does not expressly disclose wherein determining the frequency error comprises averaging a frequency offset from a plurality of fingers of a RAKE receiver. In an analogous art, Vihriala discloses wherein determining the frequency error comprises averaging a frequency offset from a plurality of fingers of a RAKE receiver (col. 4, lines 20-21).

One skilled in the art would have recognized the averaging a frequency offset from a plurality of fingers of a RAKE receiver, and would have applied Vihriala's rake receiver in Muller's handover from a UTRAN system to a GSM system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Vihriala's method and arrangement for reducing frequency offset in a radio receiver in Muller's inter-frequency measurement and handover for wireless communications with the motivation being to provide the frequency error estimates of all fingers can be averaged (col. 4, line 21).

Response to Arguments

6. Applicant's arguments with respect to claims 22-31 and 46-80 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues with respect to claim 22 on page 7, third paragraph that the examiner has fails to establish that the combination teaches or suggests the second receiver comprising a second frequency tracking loop to obtain frequency estimation information relating to the second signal as a function of the frequency estimation information relating to the first signal. The examiner disagrees. Bradley discloses at col. 10, lines 60-63 (see figure 5):"...receives channel estimates or correlations from the adder 270 of the CDMA search co-processor 57 and compares those channel estimates or correlations to the threshold 300 to detect the presence of a GSM signal (a second frequency estimation information relating to the second signal as a function of the frequency estimation information relating to the first signal means)." Bradley teaches at col. 3, lines 52-55:"Once GSM signals are detected, GSM-specific hardware and/or software may be implemented to receive and process the GSM signal in a known manner." Shohara teaches a frequency tracking loop device (see figure 1, reference 100) for the GSM standard. Therefore, Bradley in view of Shohara does teach all of the limitations of claim 22. Claim 29 is dependent of claim 22. Since claim 22 is rejected, therefore, claim 29 is also rejected.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D. Nguyen whose telephone number is 571-272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN

TN

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